DOCUMENT RESUME

ED 237 886 CG 017 141

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TITLE "Absorption": Personality Correlate or Expectancy-Mediated Artifact?
PUB DATE Aug 83
NOTE 14p.; Paper presented at the Annual Convention of the American Psychological Association (91st, Anaheim, CA, August 26-30, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS College Students; *Expectation; Higher Education; *Hypnosis; *Imagination; Personality Traits; Predictive Validity
IDENTIFIERS *Absorption (Psychology); *Absorption Scale (Tellegen and Atkinson)

ABSTRACT

Scales assessing absorption, or a predisposition to become highly involved in sensory and imaginative experiences in non-hypnotic contexts, have predicted hypnotic responsivity as well. To examine the effects of expectancy on hypnotic responding by measuring expectancies at different points in the hypnotic experience, and to test for possible reactive effects of Tellegen and Atkinson's (1974) Absorption Scale, the scale was administered to 64 college students during the course of a hypnosis experiment and to an additional 64 students in a context unrelated to hypnosis. Results showed that absorption was correlated with hypnotic responsivity and with expected hypnotic responses only when the scale was administered in the context of a hypnosis experiment. Results indicated that completing the Absorption Scale in a hypnotic context affects hypnotic responsiveness by altering subjects' expectancies. Hypnotic response expectancies bore a highly significant relationship to actual responding on all dependent variables. Path analysis supported the hypothesis that hypnotic inductions alter expectancies for responding to hypnotic suggestions, and that these altered expectancies are major determinants of subsequent hypnotic behavior. (Author/JAC)

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"Absorption": Personality Correlate or Expectancy-Mediated Artifact?

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Presented at 91st Annual Convention of the

American Psychological Association

at

Anaheim, CA, August 1983

CG 017141

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Abstract

Tellegen and Atkinson's (1974) Absorption Scale, a measure of imaginative involvement, was administered to 64 subjects during the course of a hypnosis experiment and to an additional 64 subjects in a context unrelated to hypnosis. Absorption was correlated with hypnotic responsivity and with expected hypnotic responses only when the scale was administered in the context of a hypnosis experiment. Results indicated that completing the Absorption Scale in a hypnotic context affects hypnotic responsiveness by altering subjects' expectancies. Hypnotic response expectancies bore a highly significant relationship to actual responding on all dependent variables. Path analysis supported the hypothesis that hypnotic inductions alter expectancies for responding to hypnotic suggestions, and that these altered expectancies are major determinants of subsequent hypnotic behavior.

"Absorption": Personality Correlate or Expectancy-Mediated Artifact?

Scales assessing absorption, or a predisposition to become highly involved in sensory and imaginative experiences in non-hypnotic contexts, have predicted hypnotic responsivity at significant levels (Tellegen & Atkinson, 1974; Finke & McDonald, 1978). However, some studies have failed to replicate this finding (Chiofalo & Coe, 1982; Spanos, McPeake & Churchill, 1976), and Spanos & McPeake (1975) have reported that the relationship is affected by attitudinal variables. Council, Kirsch, Vickery and Carlson (1983), in a study comparing "trance" and "skill" hypnotic inductions, reported data suggesting that the correlation between the Absorption Scale (Tellegen & Atkinson, 1974) and hypnotic responsivity is mediated by subjects' expectancies (self-predictions) for responding to hypnotic suggestions. This study found that self-reported expectancies had much higher correlations with hypnotic responsivity than did Absorption, and Absorption was significantly correlated with expectancy. When variance due to expectancy was removed in multiple regression analyses, absorption was found to be unrelated to responsivity to suggestions or to scores on Field's (1965) Inventory of Hypnotic Depth.

Results of the Council et al. (1983) study can be explained in terms of either personal or situational variables. As a personality trait, the capacity for absorption may have influenced responding on the expectancy measures. The kinds of experiences referred to in the

Absorption Scale may have been mentally surveyed when subjects estimated the probability that they would respond to hypnotic suggestions. Alternatively, when administered prior to hypnosis, the Absorption Scale can be seen as providing contextual information which influences situation-specific response expectancies. For example, since the measure is positively keyed, a subject answering "true" to many items in the context of a hypnosis experiment could conclude that he or she would be a good hypnotic subject. A major purpose of the present study was to test for possible reactive effects of Tellegen and Atkinson's (1974) Absorption Scale by administering the scale to half of the subjects in a context unassociated with hypnosis.

Council et al. (1983) based their hypothesis that the predictive power of the Absorption Scale was mediated by expectancy on data collapsed across a traditional trance induction and a cognitive-behavioral "skill" induction (Katz, 1979). In view of Council, Vickery, Kirsch, Sirkin and Clark's (1980) report that correlations between expectancy and hypnotic responsivity were significantly higher in the the case of skill inductions, it was important to replicate this effect with subjects undergoing a traditional eye-closure/relaxation trance induction. Stepwise multiple regression was used in the present study to examine the relative contributions of absorption and expectancy to hypnotic responsivity following a traditional trance induction.

This study also examined the effects of expectancy on hypnotic responding by measuring expectancies at different points in the hypnotic experience. Causal modeling (Kenny, 1979) was used to test the hy-

pothesis that traditional trance inductions alter expectancies for responding to hypnotic suggestions, and that these altered expectancies are major determinants of subsequent hypnotic behavior.

Method

Subjects. Thirty eight male and 90 female undergraduate subjects without previous experience of hypnosis participated voluntarily to satisfy psychology course requirements. Subjects were run in groups of 6 to 12 and the two conditions were balanced for sex.

Procedure. The 37 item version of the Tellegen and Atkinson (1974) Absorption Scale (ABS) was administered along with other personality tests to half of the subjects in a nonhypnotic context early in the semester. The remaining subjects completed the ABS in the context of the experimental session but prior to hearing specific details about the procedure.

Before being hypnotized, subjects heard a detailed explanation of how the induction would produce hypnosis, and how the state of hypnosis affects responsivity to suggestions. Subjects then completed a depth prediction scale (DPR) based on items taken from the Field Inventory (Field, 1965). On this scale, subjects predicted the occurrence of cognitive and perceptual distortions indicative of deep hypnosis. Next, subjects read descriptions of 10 hypnotic suggestions and predicted their responses to each suggestion on 5-point Lickert scales. This pre-induction response expectancy measure (RE-1) described cognitive, motor and challenge items analogous, but not iden-

tical, to those on the dependent measure, the Stanford Group Scale of Hypnotic Susceptibility (SGSHS, Finke & MacDonald, 1978), a group adaptation of the Stanford Hypnotic Susceptibility Scale: Form C (SHSS: C, Weitzenhoffer & Hilgard, 1962). Subjects were then taught a nonverbal method (finger signals) for reporting experienced hypnotic depth on the Long Stanford Scale (Tart, 1978) and hypnotic response expectancies.

Next, subjects heard a taped group version of the SHSS: C induction. After the hypnotic induction, and with eyes closed, subjects used the finger signals to report how deeply hypnotized they felt at that point (DSR) The items in the expectancy scale were presented once more, and subjects indicated by the finger signals the likelihood that they would be able to have each suggested experience (RE-2). The ten suggestions from the SGSHS were then administered. After completion of the SGSHS items, hypnosis was terminated and subjects rated their experiences on the Field Inventory (FI) and a self-scoring booklet for the SGSHS. The SGSHS was scored both for overt behavior (SGSB) and subjective experience (SGSS).

Results

Comparisons of means for all variables between the two conditions revealed no significant differences. Correlations between all variables for the two treatment groups are presented in Table 1. Absorption (ABS) was significantly correlated with expectancy and hypnotic responsivity measures only when assessed in the hypnotic context. Fisher z comparisons revealed significant differences between the two

conditions in correlations of ABS with SGSHS subjective scores (SGSS), $z = 2.59$, $p<.01$, and with Field Inventory scores (FI), $z = 2.04$, $p<.05$. A marginally significant difference was found between correlations of ABS with post-induction expectancy scores (RE-2), $z = 1.85$, $p<.07$. No other significant differences occurred between corresponding correlations.

Stepwise multiple regression analyses were used to further explore relationships between Absorption, context, expectancy and hypnotic responsivity. The results are presented in Table 2. Each dependent variable was regressed on each independent and measured mediating variable, including the Absorption x context interaction term, with the restriction that the significance level for entry and retention of variables was set at $p<.15$. Probabilities and F values for each variable are those associated with the sum of squares which would be added to the error sum of squares if that variable were removed from the regression equation. This analysis indicated that post-induction response expectancies were strongly related to behavioral and subjective responding on the SGSHS. While Absorption added to the model at a low but significant level, it did so only when assessed in the hypnotic context. FI scores were best predicted by the expectancy variables.

Figure 1 presents a causal model describing the relationships between the variables examined in this study. A saturated model was tested; however, for ease of presentation only the theoretically relevant paths have been left in the diagram. All paths omitted were nonsignificant. The path coefficients indicate that response to suggestions (SGSS, SGSB) was most strongly influenced by post-induction

expectancies (RE-2), which in turn seemed to be determined by subjective perceptions of hypnotic depth (DSR). It is important to note that all paths between depth reports (DSR) and measures of responsivity and hypnotic depth. were nonsignificant. This fact indicates that the effects of experienced trance depth on hypnotic responsivity are mediated by expectancy.

Pre-induction hypnotic response expectancies (RE-1) and depth predictions (DPR) did not appear to affect self-reported hypnotic depth (DSR) or SGSHS scores, although pre-induction response expectancies showed a significant effect on post-induction response expectancies. Predicted depth had its strongest influence on FI scores, although subjective response to suggestions appeared to be the major determinant of FI responses. The negative path coefficient between pre-induction expectancies and FI scores is difficult to interpret, but is congruent with the general lack of relationship between pre-induction measures and dependent variables.

Discussion

Correlational and multiple regression analyses indicate that the power of the Absorption Scale (Tellegen & Atkinson, 1974) to predict hypnotic responding depends on its administration in a hypnotic context. When absorption was measured in the context of an experiment on hypnosis, it was significantly correlated with both actual and expected hypnotic responsivity. In contrast, correlations between Absorption, measures of hypnotic responsivity and Field Inventory Scores were consistently nonsignificant when absorption was measured in a

setting that was unrelated to the hypnosis session. This indicates that the Absorption Scale is highly reactive and that its relationship to hypnotic responsivity is an artifact of its effect on subjects' expectancies. Since previous studies using the Absorption Scale and similar instruments have administered these measures in association with hypnosis, this finding implies a need for reassessment of theories and research which have explained hypnotic behavior in terms of imaginative involvement and related constructs. Administering the Absorption Scale to hypnotic subjects may implicitly suggest that imaginative processes are important in hypnosis, which in turn could influence levels of expectancy for successful hypnotic responding.

A parsimonious interpretation of the path analysis suggests that post-induction expectancies for responding to hypnotic suggestions (RE-2) are a function of pre-induction response expectancies (RE-1) and experiences of alterations in state of consciousness (DSR). Post-induction expectancies (RE-2) are the primary determinants of subjective and behavioral responses to standard hypnotic suggestions. Especially compelling is the finding that self-reported hypnotic depth (DSR) appears to affect hypnotic responsivity (SGSS, SGSB) and subsequent ratings of subjective experience (FI) only by virtue of its effect on expectancy (RE-2). Scores on the Field Inventory appear to be primarily a function of subjective perceptions of response to suggestions.

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Table 1

Correlations Between Absorption, Expectancy and Hypnotic Responsivity Variables

	ABS	DPR	RE-1	DSR	RE-2	SGSB	SGSS	FI
ABS	--	.18	.17	.07	.01	-.03	-.14	-.03
DPR	.32**	--	.44**	.21	.06	.11	.09	.11
RE-1	.40***	.35**	--	.20	.32**	.25*	.19	.10
DSR	.08	.14	-.01	--	.68****	.37**	.43***	.45***
RE-2	.33**	.33**	.28*	.57****	--	.58****	.63****	.53****
SGSB	.24	.18	.19	.36**	.55****	--	.84****	.65****
SGSS	.32**	.21	.20	.42***	.66****	.84****	--	.67****
FI	.37**	.36**	.10	.44***	.64****	.72****	.82****	--

Note: Correlations above the diagonal apply to subjects assessed on Absorption in a nonhypnotic context (n = 64). Correlations below the diagonal are for the group assessed in a hypnotic context (n = 64). All statistics involving the Field Inventory in the latter group are based on n = 58 due to missing data. (ABS = absorption; DPR = predicted depth; RE-1 = pre-induction hypnotic response expectancies; DSR = self-reported hypnotic depth; RE-2 = post-induction hypnotic response expectancies; SGSS = Stanford Group Scale subjective scores; SGSB = Stanford Group Scale behavioral scores; FI = Field Inventory of Hypnotic Depth.)

* $p<.05$ ** $p<.01$ *** $p < .001$

Table 2

Summary of Stepwise Regression Analysis

Dependent Variable SGSB			R2 = .324	
	b-weight	std. error	F	p
RE-2	.174	.023	58.07	<.001
ABS*C	.025	.014	3.04	<.09.
intercept	-.393			
Dependent Variable SGSS			**R2 = .424**	
	b-weight	std. error	F	p
RE-2	.736	.078	89.62	<.001
ABS*C	.099	.048	4.30	<.05
intercept	5.68			
Dependent Variable FI			**R2 = .400**	
	b-weight	std. error	F	p
RE-2	.681	.082	68.34	<.001
DP	.296	.113	6.81	<.05
RE-1	-.216	.110	3.83	<.06
intercept	-1.232			

Note: No other variables met the .15 significance level for entry into the model. (SGSB = Stanford Group Scale behavioral scores; SGSS = Stanford Group Scale subjective scores; FI = Field Inventory scores; RE-1 = pre-induction response expectancies. RE-2 = post-induction response expectancies; DPR = predicted hypnotic depth; ABS*C = absorption x context interaction term;)

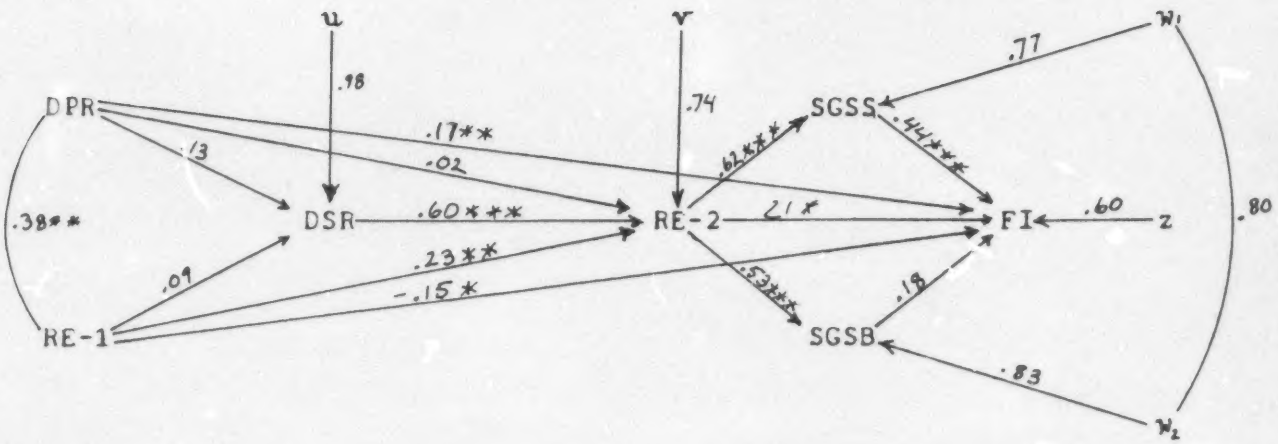

Figure 1. Causal model for hypnotic responding (n=128). (DPR = predicted depth; RE-1 = pre-induction hypnotic response expectancies; DSR = self-reported hypnotic depth; RE-2 = post-induction hypnotic response expectancies; SGSS = Stanford Group Scale subjective scores; SGSB = Stanford Group Scale behavioral scores; FI = Field Inventory of Hypnotic Depth).

* $p<.05$ ** $p<.01$ *** $p < .001$